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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/488,677	01/21/2000	Nobuaki Abe	P18580	4779

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EXAMINER

WU, JINGGE

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 06/20/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/488,677

Applicant(s)

ABE, NOBUAKI

Examiner

Jingge Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-9, 11, 12, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) 10, 13, and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Response to Amendment

1. Applicants' response to the last Office Action, filed April 23, 2003 has been entered and made of record. This is supplemental final action.

Remarks

2. Applicant's arguments with respect to claims 1-9, 11-12, and 14-15 have been fully considered, but they are not persuasive.

- a. Applicant argues that Ohsawa uses an interpolation process to enlarge the image but Applicant employed an expanded inverse IDCT process which is different from the method of Ohsawa.

However, in response to applicant's argument, Examiner would like to point out that claim language is given its broadest reasonable interpretation. The specification is not measure of invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding the prior art. *Ir re Sporck*, 55CCPA 743, 386 F. 2d 924, 155 USPQ 687 (1968). In the instant case, first, Ohsawa clearly show that a compressed image can be expanded by applying IDCT decoding and enlarging ratio to change the size of the image that has greater number of pixels (col. 16, lines 1-67).

Second, the method of Ohsawa is read the broad claim language calls for "an expanded image generator processor that applies inverse DCT to the coefficients to obtain expanded image data comprises of a greater number of pixels" because the language does not specify any detail to expand the image. That any method of expanding image data to become greater number of pixels in decoding (IDCT) could be read on the broad claim. Thus, any limitation in the specification can not be read into the claim for

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the purpose of avoiding the prior art. Finally, Applicant's expanded IDCT disclosed in specification, page 15, formula 9. Examiner believes that the formula can be clearly viewed as one kind of interpolation process because of the linear combinations in the formula.

b. Applicant further argues that "neither Takahashi or Yoshida discloses or suggest applying an inverse orthogonal transformation to obtain expanded image data. Thus, Applicant submits that even if one attempt to combine the teaching of the various references in the manner suggested by the examiner, one would fail to arrive at the instant invention, as such a combination would not expand image data by applying an inverse orthogonal transformation to DCT coefficients."

Examiner strongly disagrees. Both Takahashi and Yoshida are cited to show the feature of reduced image generating processor before an orthogonal DCT or an encoder is well known in the art. In addition, there is no suggestion either in specification or in the claim suggesting any direct relationship between inverse DCT and reduced image processor. Usually, reduced image being transformed and compressed and consequently, transmitted to other location to be decompressed. Furthermore, the reduced image produced in compression side not in the decompression side which inverse DCT is used. Moreover, the expanded inverse DCT is expressly showed in the primary reference Ohsawa. Therefore, it is illogical for Applicant's assertion that if neither Takahashi or Yoshida discloses inverse orthogonal transformation, then one would fail to combine the references to arrive the instant invention.

Examiner would like to point out that claim language is given its broadest reasonable interpretation. One can not show non-obviousness by attacking references individually where, as here the rejection are based on combination reference. In re Keller, 208 USPQ 871 (CCPA 1981). Also the test for obviousness is not whether the

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features of the reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the references make obvious to one of ordinary skill in the art. In *Re Bozek*, 163 USPQ 545, (CCPA 1969); In *re Richman* 165 USPQ 509, (CCPA 1970); In *re Beckum*, 169 USPQ 47 (CCPA 1971); In *re Sneed*, 710 F.2d 1544, 218 USPQ 385. In this instant case, Applicant tries to show non-obviousness by attacking Takahashi or Yoshida individually where, as here the rejection are based on combination references with that the feature of inverse DCT clearly shows in Ohsawa. Furthermore, all the claimed subject matters are showed in the combined references and the combination of the references make obvious to one of ordinary skill in the art. Therefore, the 102 and 103 rejection are proper and should be sustained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 11-12 and 14-15 are rejected under 35 U.S.C. 102(a) as being anticipated by US 5875039 to Ohsawa et al (a reference of record).

As to claims 11-12, Ohasawa discloses a pixel number increasing method or apparatus comprising:

an DCT processor applies orthogonal DCT to image data comprised of a plurality pixels to obtain orthogonal transformation coefficients (col. 4 lines 41-col. 5 lines 67); and

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an expanded image generating processor that applies inverse DCT to the coefficients to expanded image data comprises of a greater number of pixels (col. 4 lines 41-col. 5 lines 67, col. 8 and col. 16).

As to claims 14-15, all elements have been addressed with regard to claims 11-12 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohsawa, in view of US 6424974 to Takahashi et al. (a reference of record) or US 5159468 to Yoshida et al. (a reference of record).

As to claims 1 and 9, Ohasawa disclose an image compression an expansion apparatus, comprising:

an DCT processor reads input image data and generates DCT coefficients and stored the data in the recording memory (Fig. 7; col. 10 lines 22-63); and

an decoding image generating processor that applies inverse DCT to the coefficients to obtain expanded image data (col. 4 line 41-col. 5 line 67, col. 8 and col. 16).

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Ohasawa mentioned that an image enlarge/deduction ration is to be designated but does not expressly mention that reducing the image comprised of a smaller number of pixel than the original image.

Takahashi, in an analogous environment, discloses means to reduce input image pixels numbers by resolution conversion and then applying DCT (Fig. 2c and 2d, col. 8).

Also, Yoshida, in an analogous environment, discloses an image reduction circuit to reduce input image pixels before encoding (Fig. 8, col. 6 line 49-col. 7).

It would have been obvious to one having ordinary skill in the art at the time the invention was to use schemes of Takahashi or Yoshida in order to quickly transmitting the coded data (Takahashi, col. 3; Yoshida, col. 1). Doing so would reduce DCT coefficients need to be transmitted so that the efficiency of the image processing apparatus is improved.

As to claim 2, the elements are addressed with regard to claim 1.

As to claim, 3, Yoshida further discloses the a averaging filtering operation to obtain the reduced number of pixels (col. 3-5)

As to claims 4-5, 6, and 8, Ohasawa further discloses 8x8 matrix (Fig. 5), which includes 64 pixels, and n and m (now they are 2) are positive number.

As to claim 7, Ohsawa further discloses the enlarged output image could be as the same size as input image and thus same number of pixels (col. 4 line 41-col. 5 line 67, col. 8 and col. 16).

Allowable Subject Matter

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Claims 10, 13, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

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3. Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (703) 308-9588. He can normally be reached Monday through Thursday from 8:00 am to 5:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (703) 306-0377.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (703) 308-6604.

The Working Group Fax number is (703) 872-9314.

Jingge Wu
Primary Patent Examiner

